

list is based upon collections made during the years 1882 to 1889, and shows very careful work. Specialists have been consulted in their various groups, and the nomenclature follows the use of the oldest specific name in every case, accompanied by many useful citations of authorities.

THE LAST number of *Pittonia* is before us (vol. ii, part 9) and we note the following contents: In a discussion of the genus *Actæa*, Prof. Greene doubts whether we have the true Old World *A. spicata* with us at all, and is also confident that we have 3 or 4 species of our own. He characterizes a new species from Arizona. *Ranunculus ellipticus* is a new species to replace much that has been called *R. glaberrimus*. A very useful feature of this number is the reprint of the old Fraser's Catalogue, really written by Nuttall, often referred to, and very inaccessible. American botanists will thank Professor Greene for this valuable addition to their reference libraries. A prominent contribution is that concerning some genera of Rafinesque. It would be a wonderful relief if botanists could be certain once for all just what genera Rafinesque is entitled to. Some 14 or so are recognized in Gray's Manual, and Professor Greene thinks the number will eventually be almost doubled. He presents the following results of his bibliographical investigations: *Shepherdia* Nutt. = *Lepargyræa* Raf.; *Maclura* Nutt. = *Ioxylon* Raf.; *Downingia* Torr. = *Bolelia* Raf.; *Echinocystis* T. & G. and *Megarrihiza* Wats. = *Micrampelis* Raf.; *Stephanomeria* Nutt. = *Ptiloria* Raf. Of course these conclusions are accompanied by a presentation and naming of all the species. The North American species of the genus *Lotus* (= *Hosackia*) are presented, to the number of 54. The part closes with a revision of the genus *Diplacus* Nutt., a genus including a few species usually referred to *Mimulus*.

MR. THEODOR HOLM, of the U. S. National Museum, has long been studying the underground structures of plants, a very much neglected study. In a paper (reprinted from the January number of the *Bull. Torr. Bot. Club*, pp. 1-11) he contributes some very interesting information concerning *Uvularia*, *Oakesia*, *Dicentra* and *Krigia*. The descriptions are elucidated by three excellent plates.

OPEN LETTERS.

Last words on "biology."

I had thought that botanists were a gentle folk, but in the late numbers of the GAZETTE I have been treated in the same manner as they treat their plants—pulled to pieces. One accuses me of missing the whole point in question, while the other charges me with all the sins in the philological and metaphysical decalogues.

I have received no little information (or misinformation) from these two articles, but the point I made has been ignored.

The question in my mind resolves itself merely into this. Can a man teach biology without teaching the whole of the subject? Can he teach mathematics, unless he teach both arithmetic and quaternions? Can he teach modern languages unless he teach the whole 961 tongues? I claim that he can, and, words aside, this was the whole contention of my previous letter.

If a college or university is in position to give a well rounded biological education it is certainly its duty to do so, and I, as heartily as any one else, can find fault for short-comings in this respect. But if the institution be limited neither botanist nor zoologist should find fault because the biological training has a distinct trend towards either animals or plants, so long as it has a distinctly *biological* character, and it will have such a character if it regards its materials as a part of the living world. For the comfort of my critics I may add that the reason why the majority of such biological chairs are filled with animal biologists is because such have had on the whole the better training.—* * *

Pocket edition of Gray's Manual.

An announcement just made by the American Book Company, publishers of Gray's botanies, possesses unusual interest for botanists. It is of a special edition of the Manual "in small and compact form for satchel use." This is to be printed on thin French paper with narrow margins, so as to make it small and thin. It will be bound in full leather, limp, and cut flush, very much like a foreign guide book. The binding is to be on parchment strips such as are used in the best English prayer books, and the book is intended to stand rough usage. To many it will be a matter of sincere congratulation, that we are to have the indispensable "Manual" in field form. Its issue may be looked to with interest, since it is to be sold at the moderate price of two dollars.—AUG. D. SELBY, *Columbus, Ohio*.

NOTES AND NEWS.

DR. C. F. MILLSPAUGH, in *Zoe* (Jan.), describes two new Euphorbias from Lower California.

THE *Annals of Botany* proposes hereafter to give considerable prominence to systematic botany.

IT IS REPORTED that *Pachystima Canbyi* is in successful cultivation in the public gardens of Münden, Germany.

MR. F. W. ANDERSON is drawing the 60 plates to illustrate Mrs. E. G. Britton's Handbook of Mosses of N. E. America, which is in preparation.

MR. HEMSLEY'S place in the Kew Herbarium, left vacant by his promotion, has been filled by the appointment of Dr. Otto Stapf, of Vienna.